

The Outlying Islands of the Three Kings Group

By G. A. BUDDLE.

In January, 1947, an opportunity arose for the writer to visit the Three Kings group with the particular object of examining the outlying islands about which so little was known and with a view to obtaining information regarding possible landings, etc., which might pave the way for a more elaborate expedition at a later date, should any discoveries made warrant it.

Leaving Auckland on 27th December, 1946, in the 26ft. keel yacht *Rosemary* (equipped with an auxiliary engine), after a stop of several days at Mangonui awaiting suitable weather conditions, the Three Kings were reached early on the morning of 3rd January, 1947. As weather conditions appeared favourable, an immediate approach to South West Island was made: a close circuit of the island and examination of possible landing places resulted in the selection of a spot near or identical with the one described by Cheeseman. This point is about 100 yards from the extreme S.E. point of the island and faces Great Island (Pl. 26, fig. 1): the point of the island diverts the prevailing westerly swell; but, being in the passage separating the two islands, it was found that except at or near slack water the tide ran so strongly that it was impossible to manoeuvre the 7ft. dinghy in which the landings were made, more particularly as there is at this point a broad belt of bull kelp to add to the difficulties created by the current and the ocean surge, which ranged from 7 to 14 feet during the whole of our stay in the group. Waiting till slack water, and carefully timing the approach to the landing to coincide with the top of the surge, the dinghy was backed in to within jumping distance of the rock face (which descends vertically into 20-30 fathoms) and one at a time Major Magnus Johnson (the owner of the yacht) and the writer were landed successfully; while the dinghy was rowed back to the yacht, which was anchored in 40 fathoms about $\frac{1}{4}$ mile off shore. Once ashore, the ascent of the cliffs was not difficult.

In December, 1947, another expedition was organized to continue the exploration of these outlying islands. A landing by Major Johnson and the writer was made on the North East Island on 31st December, 1947. Photographs were taken and living specimens were collected of two new species of *Rhytida*, a land snail, of which only dead shells were found during the first visit. Unfortunately, bad weather necessitated a return to the mainland and further exploration had to be abandoned.

SOUTH WEST ISLAND.

South West Island is roughly oval in shape, the long axis running in a N.W.-S.E. direction, and is about $\frac{1}{2}$ a mile in length. The area of the island is about 70 acres: it is bounded by cliffs varying in height from

about 50ft. near the landing to 400-500ft. at the N.W. point. Ascending the cliffs above the landing and turning to the N.W., the ground rises in a steady slope to the summit (690ft.), where it drops off abruptly in sheer cliffs: to the north and east are very steep slopes, cliffs and ledges carrying here and there a little sparse vegetation, and appearing for the most part quite inaccessible. Turning westward from the landing and forcing a way through very dense windswept scrub consisting chiefly of flax (*Phormium* sp.), ngaio (*Myoporum laetum*) and *Coprosma macrocarpa*, one comes to the foot of a broad, open gully which heads out at the top of the cliffs about the middle of the western face of the island; this gully is clothed with a luxuriant growth of coastal forest trees, including pohutukawa (*Metrosideros excelsa*), kawa kawa (*Macropiper excelsum* var. *major*), wharangi (*Melicope ternata*), puka (*Meryta sinclairii*), and *Coprosma macrocarpa*. At the head of this gully a dense growth of flax commences which covers the whole of the very steep western face of the island, except where, here and there, more or less level ledges or plateaux carry a growth of puka, *Coprosma macrocarpa*, kawa kawa and other species.

To the north as one ascends to the summit of the island, the grade eases off to a gentle sloping plateau which is the site of the largest grove of puka on the island, several acres in extent: this park-like area is almost entirely puka, there being little or no undergrowth except round the fringe of the area. The trees range up to 2ft. 6in. in diameter and up to 30ft. in height. The forest floor is carpeted with dead leaves to a depth of 8-12 inches and the canopy overhead shuts out all trace of the sky. Seedlings and small trees were noticed round the fringe of the area, but none were seen through the greater part of the grove. Plate 27 (fig. 2) shows typical vegetation round the fringe of the puka area.

Continuing the ascent to the summit, the puka grove gradually gives place to a tangled growth of windswept, stunted shrubs and flax, through which a track had to be cut, which brought us out to the top of the ridge, which narrows at this point almost to a knife edge, with cliffs to the west and very steep slopes to the east, broadening out at the summit to a small grassy plateau with patches of grass and tussock (Pl. 26, fig. 3). *Hebe insularis* was noted to be particularly plentiful in this area.

Geology

The bulk of the island appeared to be composed of greywacke similar to that of Great Island: the cliffs at the summit and facing the N.W. end, however, appeared to be of a different type, resembling the columnar structure of the Princes Islands, the origin of which was at that time unknown. A specimen of rock from the summit was submitted to Professor J. A. Bartrum for examination, and I am indebted to him for its identification as an andestic lava. Professor Bartrum has kindly written a paper, which appears in this volume, giving a full description of this rock, together with other specimens obtained later from the Princes Islands. Unfortunately, in the stress of embarking under difficulties no specimens were obtained from the southern part of the island.

Botany

In addition to plants identified in the field, the following specimens were obtained, for the identification of which I am indebted to Dr. G. T. S. Baylis.

- Coprosma macrocarpa* Cheesem.
Cyperus ustulatus A. Rich.
Davallia tasmani Cheesem.
Hebe insularis (Cheesem.) Ckn. & Allan.
Hymenantha novaezealandiae Hemsl.
Macropiper excelsum var. *major* Cheesem.
Paratrophis smithii Cheesem.
Wahlenbergia gracilis Schrad.

These specimens and their relationship to the plants of the other islands are discussed fully by Dr. Oliver and Dr. Baylis in their papers following.

Ornithology

Cheeseman, 1891, p. 414) reports having seen the following land birds: Bell bird, fantail, warbler, silvereye, morepork and harrier. We did not on this occasion see fantail, warbler, silvereye or morepork, but the bell bird was fairly plentiful and, as far as could be observed, identical with specimens from Great Island. Several species not recorded by Cheeseman were observed: the spotless crane (*Porzana tabuensis*) was fairly plentiful, and one nest was found. Several kingfishers (*Halcyon sanctus*) were seen, and a good number of red-fronted parakeets (*Cyanoramphus novaezealandiae*); also a pair of pipits (*Anthus novaezealandiae*) on the summit. Several flocks of starlings (*Sturnus vulgaris*) were present and also many black-birds (*Turdus merula*), which probably are strong competitors of the spotless crane for insect food on the forest floor: the blackbird appeared to be thriving on all the islands visited. Several nests with young were found. Near the summit a small brown bird, in colouring resembling a cock sparrow, was twice seen. It had the general appearance and flight of a finch, but could not be identified. On the whole, land birds are not plentiful; possibly due to lack of water, of which we saw no sign on the island.

Of the sea birds, Cheeseman refers to many petrel burrows which he was unable to examine, and refers only to a specimen of *Puffinus assimilis*: a number of burrows were examined by us, many containing young of the fluttering shearwater (*P. gavia*) and a few young of the diving petrel (*Pelecanoides urinatrix*). There were also a number of larger burrows, in one of which was found a fully fledged grey-faced petrel (*Pterodroma macroptera*). All others examined were unoccupied, but from the appearance of feathers in the vicinity they all appeared to be burrows of the last species. As far as our examination went, the petrel population of the island appeared small compared with similar islands, such as Poor Knights and Hen and Chickens: the top of the island is almost devoid of burrows, particularly the puka areas, which seemed eminently suitable for burrows, but possibly the very dense canopy overhead prevented convenient landings at night. A careful watch was kept for signs of Buller's shearwater (*Puffinus bulleri*),

which Dr. Falla (1934, p. 250) had suggested as probably nesting in this group, but no signs were seen and very few of this species were seen at sea: unfortunately, time did not permit of an examination of the steep flax-covered slopes of the western face, which appeared likely areas for the nesting of petrels.

On the lower slopes at the S.E. end of the island, below the vegetation, was a large colony of red-billed gulls (*Larus novaehollandiae*) several thousand strong. At this date (3/1/47) less than 1% were hatched, and many eggs were freshly laid. From the summit of the island looking down towards this colony it was noticed that flocks of these gulls were excitedly wheeling and circling, with much screaming and quarrelling, close over the top of the puka groves: on our way back to the landing, the cause of this excitement was looked for, and it appeared that the gulls were feeding on the puka fruit. The upper surface of the canopy was a smooth carpet with bunches of fruit protruding through here and there; these were being eagerly devoured by the gulls.

Adjoining the gull colony and slightly higher up where the scrub began, the open cliff edge provided nesting places for a colony of gannets (*Morus serrator*): 180 nests were counted in this colony and about 40 more in two smaller colonies on the west side of the island: in most cases the eggs were laid on the bare ground and such nests as were observed were of much flimsier construction than usual, probably owing to a lack of suitable nesting material. Not more than about half a dozen chicks were seen and no young of the year were observed at sea, though there were quite a number of dead young about the gannetry. It was noticed that this colony was apparently on the increase, as at the upper end the nests were encroaching on the scrub, which was gradually being killed; several of the nests were as much as 20 feet inside the growing scrub, mostly kawa kawa.

Mollusca

A close search was made for *Placostylus bollonsi*, several colonies of which had been found on Great Island, but no signs even of dead shells were found. On the fringe of the puka grove well up on the west side of the island, the shell of a very large *Rhytida* was found: this has proved to be a new species which is being described and named by Mr. A. W. B. Powell.

Insects, etc.

A number of beetles, wood lice and other invertebrates was collected, although members of these groups did not appear common.

Maori occupation

No signs of previous Maori occupation were observed: however, I have been told by Mr. H. King, of Russell, that many years ago an old Maori had told him a story to the effect that one of his ancestors, having quarrelled with the natives of Great Island, where he was living, removed with his family to South West Island, where they remained for many years.

Goats

According to the records of the Marine Department a pair of goats was liberated in 1889, when Cheeseman visited the island. Fortunately, they did not survive; we saw no goats nor any sign that they had ever been there.

NORTH EAST ISLAND.

As far as I am aware no previous landing has been made on the North East Island, and the only published reference to it appears to be by Cheeseman (1891, p. 419), who states: "While I was engaged in the examination of the Great King, Captain Fairchild paid a visit in the 'Hinemoa' to the East King to ascertain whether a landing could be effected. It proved to be exceedingly rocky and precipitous on all sides; and although with care it would have been possible to land at the foot of the cliffs, it appeared to be quite impossible to reach the top of the island. Acting, therefore, on his advice, I made no attempt to land. It is about the same size as the Western King, but is rounder in outline and a little higher. The whole of the top is covered with light bush, mainly composed of the puka, which appears to be even more plentiful than on the Western King. Cabbage trees (*Cordyline* sp.) and pohutukawa were also seen, but the steamer could not be taken sufficiently close inshore to identify any other species."

On the morning of 4th January, the weather being favourable, a light north-westerly breeze and moderate swell, a close circuit of the island was made in the yacht and several places were noted where a foothold at the base of the cliffs could be obtained. but in most cases there appeared to be an overhanging ledge of rock or vertical face which would completely prevent an ascent to the top. However, at the southern tip, which juts out far enough to slightly divert the prevailing westerly swell, we noticed a creviced face and small sloping ledges which looked promising, and, taking advantage of slack water, Major Johnson and I landed one at a time without great difficulty, and found the climb to the top not as difficult as it appeared from the sea: we took rope to assist in climbing, but fortunately found it was not required. (Plate 27, fig. 3.)

The island is about 500 yards in length by 250 yards in breadth, and the height 407 feet; it is roughly oval in shape, with steep cliffs all round, varying from 100-300 feet in height. Climbing up from the landing, the slope of the bare rocky face of the cliff eased off at about 200 feet and the first signs of vegetation appeared in the form of mosses, lichens and sedges, then creeping plants, such as *Disphyma australe*, native cucumber (*Sicyos angulata*) and panahi (*Ipomoea palmata*), and then wind-swept, stunted ngaio, *Coprosma macrocarpa* and wharangi, giving place, as we reached the plateau, to a luxuriant growth of pohutukawa, puka, kanuka (*Leptospermum ericoides*), *Coprosma macrocarpa*, and kawa kawa. The greater part of the top plateau is occupied by a magnificent grove of puka, 3-4 acres in extent, open and park-like, there being no undergrowth of any description except round the fringes: on the eastern and southern side the puka forest extends to the cliff edge, where vegetation ceases. On the north and west it ceases slightly

below the ridge which forms the backbone of the island, and here the ground drops off in a series of steps, terraces and broken slides well covered with vegetation, including pohutukawa and large kanuka, until the sheer cliffs dropping off into deep water are reached.

This island is not so dry and arid as South West Island, and the puka especially seemed to be more luxuriant in growth; towards the eastern end several specimens 3 feet in diameter were noted, close to a large patch of bracken (*Pteridium esculentum*). A number of specimens of the plants were obtained, but, unfortunately, many were lost in embarking. I am indebted to Dr. G. Baylis for the identification of specimens of the following:

- Carex forsteri* Wahl.
- Davallia tasmani* Cheesem.
- Ipomoea palmata* Forsk.
- Melicope ternata* Forst.
- Meryta sinclairii* Seem.
- Oplismenus undulatifolius* Beau v.
- Paratrophis smithii* Cheesem.
- Pittosporum fairchildii* Cheesem.
- Pyrrosia serpens* (Forst. f.) Ching.
- Rhagodia nutans* R. Br.

Bird Life

Very few birds were seen and no specimens obtained. Half a dozen bell birds (*Anthornis melanura*) and a pair of red-fronted parakeets (*Cyamoramphus novaezelandiae*) were the only indigenous bush birds. There were very few petrel burrows, apparently all unoccupied, but probably the bulk of the petrel population, which cannot be large, is situated on the north and west faces, which were not examined. Several small flocks of starlings, and the ubiquitous blackbird, were also present. No gulls or gannets nest on this island. A small brown bird was seen by Major Johnson, apparently similar to the unidentified one seen on South West Island.

Mollusca

Placostylus bollonsi is plentiful and not congregated in small colonies as on Great King, but appeared to be fairly evenly distributed over all parts of the island examined. Sixteen live specimens and a number of eggs were obtained, and also several specimens of a previously unknown species of *Rhytida*; these and the *Placostylus* are dealt with by Mr. A. W. B. Powell in his paper on the Mollusca of the group.

Maori occupation

The greater part of the puka grove, perhaps 3 or 4 acres, has been cleared of stones and walled and terraced by Maoris; in some cases the walls are still standing, but mostly are now represented merely by piles and lines of stones, through which pukas up to 3 feet in diameter and 30 feet in height are now growing: these have the appearance of having grown since the date of the last Maori occupation. In this connection, the following quotation from the narrative of d'Entrecasteaux (Labillardiere: Voyage in search of La Perouse) may throw some light. "At daybreak on the 13th (March, 1793) we made the islands called

the Three Kings. About 8 o'clock, being in longitude $169^{\circ} 56'$ East we set the middle island of the group north distant one league and ascertained its latitude to be $34^{\circ} 20'$ south. We saw three principal rocks of a moderate height, nearly in the same parallel at no great distance from one another, and surrounded by other rocks that were much smaller. Notwithstanding the fog that had just come on, we distinguished some more rocks towards the south, making a part of the same cluster. They were very bare and we did not suppose them to be inhabited, but a large column of smoke arising from the easternmost islet informed us that there were savages on it. No doubt they chose this place of residence because it afforded them an opportunity of procuring fish with ease from among the shoals. About three quarters after ten we made the land of New Zealand, which we approached by steering easterly under favour of a light breeze from the west north west."

Owing to the fact that North East Island has hitherto been considered totally inaccessible, this reference may be interpreted as referring to Great Island, but for the following reasons I consider it probably refers to North East Island:—

1. D'Entrecasteaux refers to the *eastermost* islet, and sailing on an easterly course a league to the south of the group he could hardly fail to see it if Great Island were visible, in spite of his mention of fog, as it is 400ft. in height and would be nearer to him than Great Island.
2. He refers to an *islet* and not an island.
3. It is actually reasonably accessible in fine weather.
4. His reference to shoals of fish, which in my experience, at this season of the year, are usually congregated in this area, which generally speaking is the lee or sheltered side of the group.

If my surmise is correct, this would indicate that the island was inhabited at least as late as 1793, and it is reasonable to assume that they were inhabited, at least periodically, until the final evacuation of the Great King some time after 1835 (Cheeseman, 1888, p. 145).

PRINCES ISLANDS.

The Princes Islands comprise a group of rocky islets set in a crescent between West and South West Islands. There are five islets ranging from 100-200 yards in length, separated by narrow but deep passages, together with a large number of smaller outlying rocks. The average height is about 100 feet, and steep cliffs descend into 20-30 fathoms of water on all sides. On one or two of the larger islets there is a scanty vegetation of *Disphyma australe*, flax, sedge and a few very stunted taupata (*Coprosma repens*); the remainder are barren, wave-swept rocks without vegetation or soil. (Plate 27, fig. 1.)

A landing was made on one of these islets (the third from the western end of the chain), which is pierced by a tunnel running right through the island. Specimens of plants comprising the following species were obtained and have been identified by Dr. Baylis:

Coprosma repens Richard.

Disphyma australe (A. Cunn.) Black.

Lepidium oleraceum var. *frondosum* Kirk.

Rhagodia nutans R. Br.

The top plateau of this island is occupied by a nesting colony of gannets (*Morus serrator*) estimated at about 500 birds; intermingling with these and extending down the slopes were numbers of red-billed gulls (*Larus novaehollandiae*) (outnumbering the gannets by 4 to 1). Similar colonies existed on three other of the islets. No other birds were seen: there is no ground in which petrels could burrow. At the time of our visit several young gannets had hatched out, and as we walked through the colony some of them vomited the fish with which they had recently been fed, and from under the rocks appeared numbers of large skinks (*Lygosoma*) which gorged themselves on the partly digested fish.

Geology

This group of islets has never before been examined, but from observation from the sea the columnar structure of the rock indicated a probable volcanic origin, different from that of the larger islands of the group, which are composed mainly of greywacke. Specimens of rock were obtained from two parts of the group, and I am indebted to Professor J. A. Bartrum, of Auckland University College, for their identification as andesitic lava: he is contributing a paper describing this rock in detail and its relationship to the remainder of the group and the northern coast of the mainland. Owing to adverse weather conditions, landing on any other of the islets was not possible, but the geological formation appeared to be the same throughout and extended to the N.W. end of the South West Island, where specimens of similar but somewhat more weathered rock were obtained.

WEST ISLAND.

West Island is roughly triangular in shape with the base facing north west; it rises steadily from low cliffs at the south east to the summit (605ft.) near the northern face, very much like a smaller edition of South West Island: it is if anything more rugged and precipitous than the latter. The area is probably about 40-50 acres.

As far as is known, no landing has yet been made on this island, and owing to unfavourable weather no attempt was made on this occasion, but a close examination of the shore line was made with a view to locating a possible landing place for future operations. The most likely spot is situated near the southern point of the island and facing the south west: no great difficulty would be experienced in climbing to the



- Fig. 1. The landing place on South West Island (marked X). Red-billed gulls (*Larus novae-hollandiae*) nesting on the lower slopes and gannets (*Morus serrator*) nesting along the cliff edge.
- Fig. 2. South West Island, seen from the North.
- Fig. 3. The summit of South West Island (690ft.). The pyramid marks the division between the greywacke, of which the bulk of the island is composed, and the andesitic lava, forming the northern cliffs.

top of the island if a landing were made at this point, but this could only be done in light easterly weather. Another point where it seemed possible to scale the cliffs is situated directly opposite, on the N.E. face opposite to Princes Islands, but the tide rip in this passage is one of the worst in the whole group and would render the operation exceedingly hazardous.

The island is for the most part covered with bush of very similar size and growth to that on South West Island. We could clearly identify quite large areas of puka, pohutukawa, kanuka and what appeared to be either *Coprosma macrocarpa* or *Melicope ternata*. Cheeseman's description of the vegetation appears to be somewhat inaccurate, probably due to the distance from which he observed it: he says (Transactions of N.Z. Institute, 23, p. 409): "Rounding the island at a distance of about half a mile, the vegetation was evidently scanty. Here and there some dark green patches showed on the cliffs, probably composed of trailing masses of ice plant and *Coprosma repens*, and with the glass some stunted flax and toetoe grass could be seen growing on the top, as also a few shrubby plants which it was impossible to identify, but on the whole the island presented a barren appearance and was little more than a bare rock."

In 1902 the "Elingamite" was wrecked on West Island; it is believed that one or two survivors were thrown up on the rocks and afterwards taken off, and one or two fishermen claim to have landed on the rocks, but so far as is known no one has ever explored the island. After the "Elingamite" wreck pressure was brought to bear on the Government by shipping interests to erect a lighthouse on the island, and an examination was made to investigate the possibility of doing so. I am indebted to Mr. F. W. Furkert, late Chief Engineer of the Public Works Department, for the following information: the Marine Department reported to the Auckland Chamber of Commerce that "The Western Islet is an extremely precipitous rock of such a nature that it would be hazardous and dangerous to land on it, and after landing it would need an experienced mountaineer to scale it. To erect a light on this island would be a difficult and tedious task, and to locate a staff there to attend to it would practically make them prisoners. An automatic light on this island would also require enormous difficulties to be surmounted in addition to the risk of this giving out through exhaustion of gas by inability to land fresh cylinders, which would also be a source of trouble."

It was the opinion of Captain Bollons and his officers that it might be possible to land (a jump ashore landing) on an average of one day a month. Owing to the great difficulties and expense entailed, the proposal was dropped and instead a survey was made and a scheme approved for two lighthouses on Great Island; two being necessary owing to the fact that one or the other would be obscured by West Island in certain positions from a vessel approaching from the west; however, before work was actually commenced it was decided to rely on the Radio Station at Cape Maria, and the project was dropped.

In closing this account I would like to express my thanks to Major Magnus Johnson, whose local knowledge, derived from two previous visits to the group, proved invaluable: his good judgment and skilled handling of small boats (ably assisted by his crew, Messrs. E. Beaver and M. Green) enabled three successful landings to be made under very difficult conditions.

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- Fig. 1. Princes Islands and West Island (in the background) from the summit of South West Island.
- Fig. 2. A typical scene on South West Island, showing the vegetation on the fringe of the puka forest.
- Fig. 3. The southern point of North East Island, showing the landing place (marked X) and route to the top of the island, where the commencement of the puka grove can be seen on the right.